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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,019	09/08/2004	Tsunchisa Sanagi	DK-US020672	7705
22919	7590	09/20/2007		
GLOBAL IP COUNSELORS, LLP 1233 20TH STREET, NW, SUITE 700 WASHINGTON, DC 20036-2680			EXAMINER NALVEN, EMILY IRIS	
			ART UNIT 3744	PAPER NUMBER
			MAIL DATE 09/20/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/507,019

Applicant(s)

SANAGI, TSUNEHISA

Examiner

Emily I. NaIVEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Amendment*

Receipt of applicant's arguments filed on August 29, 2007 is acknowledged.

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-18** are rejected under 35 U.S.C. 102(b) as being anticipated by Bostwick (US Patent Pub No (2002/0141888 A1).

**In regard to claim 1**, Bostwick teaches a centrifugal fan (10) (see Fig. 1 and para 24 lines 1-3) that sucks air from a rotary shaft direction (14) (para 24 lines 1-3) and blows air out in a direction that intersects a rotary shaft (62) (para 9 lines 4-9 and para 10 lines 1-7) comprising an electric motor (64) having said rotary shaft (62) (see Fig. 6 and para 33 lines 1-2), a main plate (20) (para 24 lines 6-7) having a cooling air hole (48) (para 29 lines 26-29) and being coupled to and rotationally driven by said rotary shaft (62) (see Fig. 6 and para 32 lines 4-13), a plurality of blades (16) provided on the surface of said main plate (20) on the side opposite an electric motor (64) and at a position on the outer peripheral side of the radial position of said cooling air hole (48) (Fig. 6 and para 24 lines 7-8 and para 32 lines 4-9).

Bostwick also teaches an air guide (70) that after a portion of the blown out air has been guided to the vicinity of said electric motor (64) and has cooled said electric motor (64), guides the air flow so that the revolving direction (para 32 lines 1-2) velocity decreases when blown out from said cooling air hole (48) to the side of said main plate (20) opposite said electric motor (64) (para 35 lines 9-15 and para 37 lines 7-10). The term "vicinity" is interpreted to mean that the air blown off of fan (10) is within the same system as the electric motor (64).

**In regard to claim 2**, Bostwick teaches a centrifugal fan (10) (see Fig. 1 and para 24 lines 1-3) that sucks air from a rotary shaft direction (14) (para 24 lines 1-3) and blows air out in a direction that intersects a rotary shaft (62) (para 9 lines 4-9 and para 10 lines 1-7) comprising an electric motor (64) having said rotary shaft (62) (see Fig. 6 and para 33 lines 1-2), a main plate (20) (para 24 lines 6-7) having a cooling air hole (48) (para 29 lines 26-29) and being coupled to and rotationally driven by said rotary shaft (62) (see Fig. 6 and para 32 lines 4-13), a plurality of blades (16) provided on the surface of said main plate (20) on the side opposite an electric motor (64) and at a position on the outer peripheral side of the radial position of said cooling air hole (48) (Fig. 6 and para 24 lines 7-8 and para 32 lines 4-9).

Bostwick also teaches an air guide (70) that after a portion of the blown out air has been guided to the vicinity of said electric motor (64) and has cooled said

electric motor (64), guides the air flow so that it is blown out toward the side of the main plate (20) in the counter rotational direction (para 32 lines 1-2) when blown out from said cooling air hole (48) to the side of said main plate opposite said electric motor (64) (para 35 lines 9-15 and para 37 lines 7-10 and lines 28-34). The term "vicinity" is interpreted to mean that the air blown off of fan (10) is within the same system as the electric motor (64).

**In regard to claim 3**, Bostwick teaches a centrifugal fan (10) wherein said air guide (70, 72) is formed with said main plate (20) (see Fig. 6). It is presumed that the recitation "formed with" means that the main plate (20) and the air guide (70) are all part of the same air blowing system.

**In regard to claim 4**, Bostwick teaches a centrifugal fan (10) comprising a cover (72) that covers said cooling air hole (48) (see Fig 6) from the side opposite the electric motor (64) and that is provided so that it rotates integrally with said main plate (20) wherein said air guide (70) is formed between said cover (72) and said main plate (20) (see Fig. 6 and para 37 lines 7-10).

**In regard to claim 5**, Bostwick teaches a centrifugal fan (10) wherein said air guide (70) has a blade shape inclined rearwards in the rotational direction of said cover (72) (see Fig. 6). The term "inclined rearwards in the rotational direction of said cover" is interpreted to mean that the air guide is located in between the fan (10) and the cover (72), which rotates with the fan (10).

**In regard to claim 6**, Bostwick teaches a centrifugal fan (10) wherein said air guide (70) has a volute blade shape (para 33 lines 1-4). The air guide (70) surround the rotor in a spiral manner.

**In regard to claim 7**, Bostwick teaches a centrifugal fan (10) wherein said air guide (70) is formed in said cover (72) (see Fig. 4 and see Fig. 6). The term "formed in said cover" is interpreted to mean that the air guide (70) and cover (72) are both elements of the same air blowing system.

**In regard to claim 8**, Bostwick teaches an air conditioner comprising a centrifugal fan (10), a heat exchanger (46) (para 37 lines 18-24) arranged on the outer peripheral side of said centrifugal fan (10) and a casing that houses said centrifugal fan (10) and said heat exchanger (46) (para 5 lines 1-9).

**In regard to claim 9**, see rejection for claim 3 above.

**In regard to claims 10 and 13-18**, see the rejection for claim 8 above.

**In regard to claims 11 and 12**, see the rejection for claim 7 above.

### ***Response to Arguments***

2. Applicant's arguments filed on August 29, 2007 have been fully considered but they are not persuasive.

The applicant contends that Bostwick does not teach that the air guide decreases the revolving direction when blown from the cooling air hole. However, the air guide (70) as seen in Fig. 6 suffices as a lip to stop the flow of air from rotating and thereby blocking the centripetal flow of air and as such decreasing the overall centripetal flow.

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Additionally, the applicant contends that the air is not blown out from the center (48) of the fan. However, Fig. 6 shows that the direction of the air flows perpendicular to the axis of rotation across the fan thereby meeting the limitations of the claim.

Additionally, the claim language does not insist that the air be blown directly through the center hole, only that it is "in a direction that intersects a rotary shaft." The examiner would like to point out that the term "revolving direction velocity" is interpreted to mean the speed of the air as it is blown from the rotating fan blades, i.e. the speed the air is moving and the fact that the air is moving in a circular pattern as per the fan is rotating in a circular pattern.

In regard to the statement about the Official Notice of the revolving direction Shingai (US Patent No. 6,126,395) teach a fan with a motor to rotate its blades and explicitly teach that controlling the speed of the revolving directional velocity (col 1 lines 15-17). Additionally, the applicant contends that Bostwick does not meet the limitations of claim 2. However, the air guide (70) operates to guide the air around the motor (para 35) and has holes that can be arranged to control the amount of air and direction the air is blown around the motor (64). Additionally, the curvature of the blades (16) can be inclined such that they guide the air flow toward the main plate.

The applicant also contends that a stator does not operate as a heat exchanger. However, the plate (46) does operate as a heat exchanger on the outer peripheral side of the centrifugal fan as described in the rejections above.

***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure.

Nishiyama et. al. (US Patent No. 6,454,527 B2) teaches a fan with a cap.

Ramos et. al. (US Patent No. 6,298,682 B1) teaches a centrifugal fan.

Shingai (US Patent No. 6,126,395) teaches an axial fan.

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emily Iris Nalven whose telephone number is 571-272-3045. The examiner can normally be reached on Monday - Thursday 8 AM - 5:30 PM and on alternate Fridays 8 AM – 4:30 PM.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisors, Cheryl J. Tyler can be reached on 571-272-4834 and Frantz Jules can be reached on 571-272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Emily Iris Nalven  
Art Unit 3744  
September 10, 2007

  
CHERYL TYLER  
SUPERVISORY PATENT EXAMINER